

HYLA PHYLLOCHROUS GÜNTHER (AMPHIBIA) AS AN ADDITION TO THE
FAUNA OF VICTORIA, WITH THE DESCRIPTION OF A NEW RACE AND A
NOTE ON THE NAME OF THE GENUS.

By STEPHEN J. COPLAND.

(One Map.)

[Read 27th June, 1962.]

Synopsis.

A new race of the frog *Hyla phyllochrous* Günther is described. The known range of the species is extended about 240 miles and its first record for Victoria is established. A note is given on the nomenclature of the generic name *Hyla*.

Two rather small frogs, brilliantly green above, white to pinkish ventrally and with clear gold dorsolateral lines anteriorly, were found 10 miles north of Walhalla, Victoria, on December 29, 1961, when my daughters Janet and Christina and myself were collecting on bars of gravel and shingle in the Aberfeldy River. Both individuals were near the edge of the water where there was sparse cover from grasses and other vegetation. The two frogs proved to be *Hyla phyllochrous*, which was first described by Günther in 1863, the type locality being Sydney. They differ subspecifically, and are here described:

HYLA PHYLLOCHROUS NUDIDIGITUS, subsp. nov.

Specimens Examined and Locality Record: 2 (A.C.7280-1), Aberfeldy River, 10 miles by road north of Walhalla, Victoria, 29.xii.1961. Holotype A.C.7280, paratype A.C.7281. Both in author's collection: holotype to be lodged in Australian Museum, Sydney.

Diagnosis: Differs from the nominate race by the absence or, at the very most a scarcely discernible rudiment of, web between the fingers (which is always quite distinct in *H. p. phyllochrous* where it is remarkably constant, averaging more than 20%), smaller finger and toe discs, and generally more indistinct tympanum.

Discussion: The head and body length of the larger specimen A.C.7280 is 25.5 mm. Both these Victorian frogs agree well in nearly every particular with a representative topotype of *H. p. phyllochrous* A.C.6146 from Warrawee, Sydney (for full description see Copland, 1957: 43). Departures from A.C.6146 are nearly always paralleled by the variation in one or more of the 66 specimens discussed in the same paper. The more important reasons for describing a new race are mentioned in the diagnosis and amplified here. Webbing between the fingers may fairly be described as absent. It is not measurable and at the most is the merest vestige. In *p. phyllochrous* the amount of webbing between the fingers is remarkably constant. That between the 2nd and 3rd fingers varies only 5% between 20 and 25% with an average of 22%. In A.C.6146 the percentages between the fingers are 28, 21 and 19. Forty specimens in the author's collection, including good series from Sydney and Megan, near Dorrigo, show variation to some extent, but the webbing is distinct in every case. Günther in his original description (1863: 251) said of the fingers "one-fourth webbed". It may be mentioned here that the extent of webbing between the toes is much as in *p. phyllochrous*, the average for the two specimens of *p. nudidigitus* being 68, 68, 77 and 62% with little difference between them. Percentages for A.C.6146 are 67, 62, 67 and 57. The finger and toe discs are smaller. (In 40 *p. phyllochrous* examined all had decidedly larger and generally much more rounded finger discs; 33 had decidedly larger toe discs while seven were slightly larger.) The tympanum is almost certainly more indistinct. In

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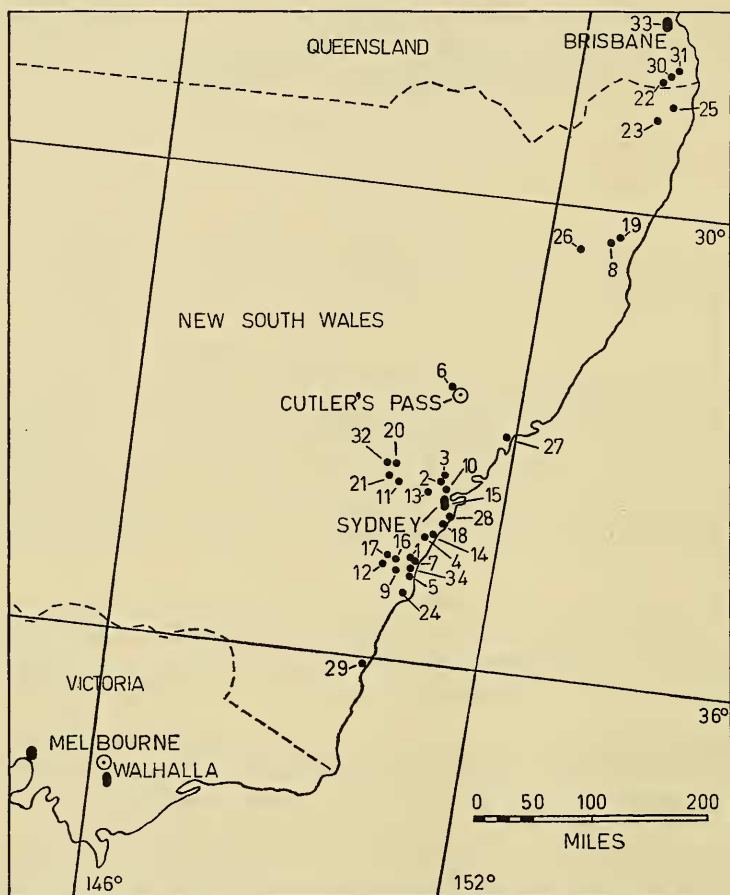
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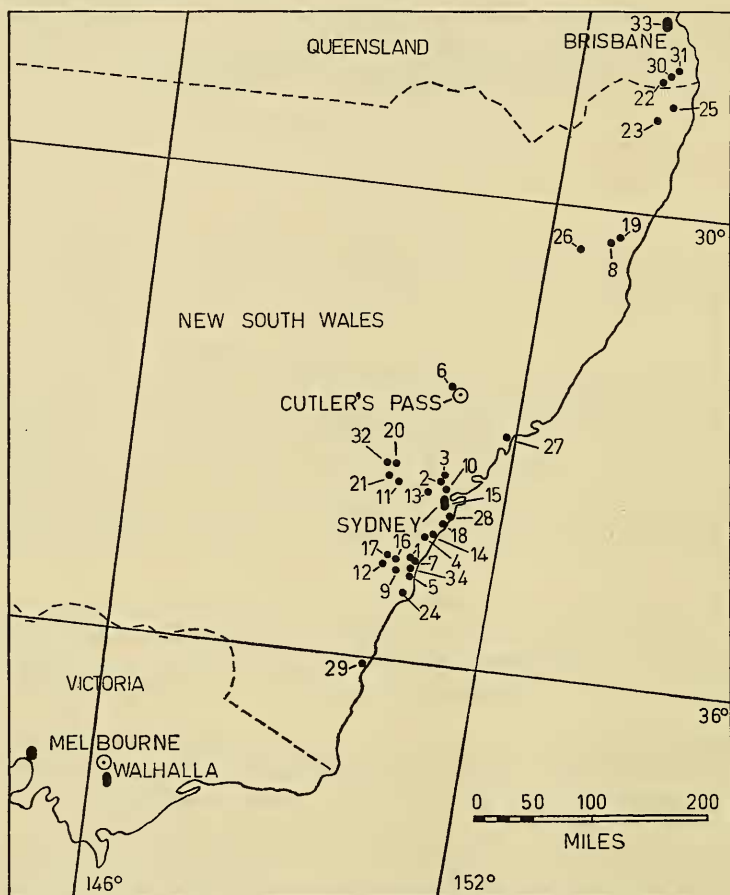
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A.C.7280 it is practically invisible, its surface being like the surrounding skin in colour and texture, but it is apparently roundish. In A.C.7281 it is more distinct, about 0.75 mm. across and contained nearly three times in the diameter of the eye. Taking a frog like



Map of south-eastern Australia showing localities from which *Hyla phyllochrous* has been recorded. The numbers all represent records for *H. p. phyllochrous*. 1 Minnamurra Falls, 2 Warrawee, Turrumurra and Hornsby (all close together), 3 Bobbin Head, 4 Upper Cordeaux Dam, 5 Gerringong, 6 Barrington Tops, 7 Jamberoo, 8 Megan, 9 Kangaroo Valley, 10 Killara, Gordon and Lindfield (close together), 11 Woodford, 12 Bundanoon, 13 Seven Hills, 14 Woonona, near Bulli, 15 Sydney, 16 Burrawang, 20 miles inland from Illawarra, 17 Moss Vale, 18 Stanwell Park, 19 Lowana, 20 Mt. Irvine, 21 Blackheath (including Grose River near Blackheath), 22 National Park, Queensland, 23 Dunoon, 24 between Tomerong and Nowra, 25 Huonbrook (transcribed by me in error as Heronbrook (1957: 44)), 26 Ebor, 27 Hamilton, 28 National Park, New South Wales, 29 Lawler's Creek near Bodalla, 30 Binna Burra, 31 Beechmont, 32 Mt. Wilson, 33 Brisbane, 34 Kiama. Localities 1 to 8 are represented in the author's collection; 9 to 20 in the Australian Museum, Sydney; and 21 to 24 are literature references. For full details of specimens see Copland (1957: 44), except for the following specimens identified or collected since 1957: 2 (A.C.136-7) Upper Cordeaux Dam, 25.ix.1938; 1 (A.C.153) Gerringong, 2.x.1938; 1 (A.C.5043) Warrawee, 17.vii.1953; 1 (A.C.6143) rain forest below Barrington Tops (C. Tanner), 28.ix.1956; 1 (A.C.6150) Jamberoo (A. Keast), 14.x.1956; and 11 (A.C.6641-51) Megan, 25.xii.1957; all additional localities are in New South Wales. Specimens from localities 1 to 20 have been examined. Localities 25 to 33 are further records given by Moore (1961: 257), of which 26 to 29 are represented in the collection of the American Museum of Natural History as well as 10 and 21. Fletcher (1889: 382) notes 34. A record in the Australian Museum is for the Blue Mountains, which are west of Sydney and include 11, 20, 21 and 32. The type localities for *H. p. barringtonensis*—Cutler's Pass—and *H. p. nudidigitus*—near Walhalla—are lettered and shown by large dot-centred circles on the map.

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Hyla lesueurii as a standard the tympanum can only be termed distinct in about half the specimens of *p. phyllochrous*, but if the tympanum is regarded as distinct if it can be seen plainly enough to be measured, only one out of 40 *p. phyllochrous* examined is virtually invisible, whereas in the new race it must be considered invisible in one and indistinct in the other of the only two specimens.

Collection of the new subspecies near Walhalla not only makes an addition to the small list of frogs from Victoria (see Moore, 1961: 358), but extends the known range of *phyllochrous* roughly 240 miles in a general south-westerly direction from its previously recognized southern limit at Lawler's Creek, near Bodalla, where Moore collected three specimens (1961: 257). The list of Victorian hylids now reads: *Hyla peronii*, *H. phyllochrous nudidigitus*, *H. citropus*, *H. maculatus*, *H. ewingii iuxtaewingii*, *H. e. verreauxii*, *H. e. loveridgei*, *H. e. callisclis*, *H. aureus raniformis* and *H. lesueurii*. I have collected eight of the above 10 forms in Victoria and so can vouch for identification and localities. Specimens of *citropus* and *callisclis*, which I have examined, have been taken by other collectors. In the case of *citropus*, as pointed out by Copland (1957: 54) and Moore (1961: 275), a locality error is possible. The only three frogs attributed to Victoria are in the Australian Museum. The circumstances under which they were entered in the register increase the possibility of a mistake but do not make it anything like a certainty. The specimens were received as part of J. J. Fletcher's extensive collection and entered in February, 1922. The frogs probably had been sorted in jars under species when received at the Museum. The three individuals catalogued as R.7560-2 are entered as from Aberfeldy, Victoria. They are preceded in the register by R.7558-9 from Waterfall, N.S.W., and followed by R.7563 from Manly, N.S.W. All are definitely *Hyla citropus*. There is no further information in the register or in the jar in which the frogs are now kept. I believe that the presence of this species in Victoria should be strongly doubted until further specimens are collected there.

Typical *H. p. phyllochrous* is a true tree frog and is usually found sitting on leaves of shrubs and trees. Banana trees are much favoured because of their broad leaves and axils. They frequent moist places, not necessarily near creeks or bodies of water. The finding of both specimens of *H. p. nudidigitus* among stones at the edge of a river probably means very little because at the time the surrounding area of Victoria was suffering a severe drought. Dryness of the normally moist hillsides would have driven many frogs to seek water. It is interesting to speculate as to what evolutionary pressure led to the extreme reduction of the southern frogs' finger webbing while it remained prominent in the presumably parental northern forms. This is the third race of *Hyla phyllochrous* to be described. To make the key in the author's 1957 paper complete the diagnosis for *H. p. nudidigitus* printed above should be inserted on page 12 immediately after *H. p. barringtonensis*.

Note on the Generic Name Hyla: It will be noted above that the customary -a termination of *phyllochroa* has been changed to -us and similarly that the masculine form of adjectives has been used when the names of other species have been mentioned. It has been customary to treat *Hyla* as a feminine noun. In spite of the error having been pointed out by Stejneger (1907: 75), Waite (1929: 258) and others, many authors have continued to use the feminine form of adjectives. I made the same mistake in a note (1961: 168). Stejneger deals with the matter concisely and may be quoted in saying that *Hyla* is "Not derived from the Greek word for wood-land, copse, as commonly stated, but from the vocative of Hylas, in Greek mythology the favorite of Hercules, who lost him in Bithynia. The crying of hyla, hyla being part of the religious ceremonies instituted in his honor. The croaking of the tree-toad suggested to Laurenti the fanciful idea of its being *Hyla's* priest, and thus meriting his name 'haec quasi Hylae sacerdos nomen ejusdem merita est.'" The word *phyllochroa* is a coined one derived from leaf and colour. Ending in *a* it was almost certainly in the adjectival form to agree with *Hyla* as feminine. It has accordingly been changed here to give it the masculine termination -us. This course is supported by the fact that Günther was in the habit of

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